

REMARKS

Upon entry of this amendment, claims 1 – 4 and 6 - 10 will be pending.

The Applicants appreciate the Examiner's continued attention and consideration.

Claims 1 – 4 and 6 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polinski, Sr. (U.S. 5,386,339).

Independent claim 1 has been amended to recite:

“A circuit board assembly comprising:

*a co-fired substrate comprising at least first and second regions superimposed and bonded to each other, and the first region being formed of a plurality of superimposed first layers, each first ceramic layer consisting essentially of **low thermal conductivity**, electrically-nonconductive materials, ... the second region being formed of at least one second layer ... ; and a surface-mount IC device mounted to a first surface of the substrate defined by one of the **low thermal conductivity** first ceramic layers, wherein the first and second regions are arranged for serial thermal interconnection between said IC device and an opposed heat sink, and wherein each first ceramic layer and said at least one second ceramic layer have substantially similar width and length characteristic dimensions.”.*

The Polinski device discloses several embodiments wherein, in each case, the microelectronic component 28 is bonded to one of the high thermal conductivity sheets (Figure 1 – heat sink 20; Figure 2 - sheet 38; Figure 3 – sheet 66; Figure 4 – sheet 96; Figure 5 – heat sink 128). Figure 5 illustrates (laterally) alternating low thermal conductivity sheets 122 and high thermal conductivity sheets 126. The high thermal conductivity sheets constitute the heat sink 128. Thus, restated, Polinski teaches bonding the microelectronic component directly to a high thermal conductivity stack of sheets comprising a heat sink.

In the present invention, the power chip 12 is bonded to an upper ceramic layer 36 of region 32 which is constructed of low thermal conductivity, electrically non-conductive materials. This structure enables tailoring of the thermal properties for purposes of improved thermal management with enhanced mechanical properties for improved robustness.

Accordingly, in view of the amendments, claim 1 clearly distinguishes over Polinski

Claims 3 – 4 and 6 – 9 depend from independent claim 1 and are deemed to distinguish over Polinski for the reasons set forth hereinabove.

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Independent claim 10 was similarly amended to distinguish over Polinski.

Accordingly, claim 10, as amended, also clearly distinguishes over Polinski.

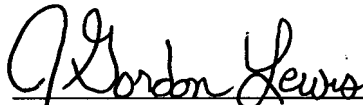
Conclusion

Applicants believe, in view of the amendments and remarks herein, that all grounds of rejection of the claims have been addressed and overcome, and that all claims are in condition for allowance.

If it would further prosecution of the application, the Examiner is urged to contact the undersigned at the telephone number provided.

The Commissioner is hereby authorized to charge any fees associated with this communication and/or credit any overpayments to Deposit Account No. 50-0831.

Respectfully submitted,

A handwritten signature in cursive script, reading "J. Gordon Lewis", written over a horizontal line.

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